

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

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Surface Water

(Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

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Ground Water

(Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE May 24, 1991	APPLICATION NUMBER G2-28161	PERMIT NUMBER	CERTIFICATE NUMBER
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NAME
Firgrove Mutual, Inc.

ADDRESS (STREET) 10408 - 144th Street E	(CITY) Puyallup	(STATE) Washington	(ZIP CODE) 98374-4958
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PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Well #9

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 500	MAXIMUM ACRE-FEET PER YEAR 403 Supplemental
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QUANTITY, TYPE OF USE, PERIOD OF USE
403 acre-feet per year Multiple domestic supply Year-round, as needed

Supplemental to existing rights

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL
500 feet north and 200 feet east of the west quarter corner of Section 16.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) SW $\frac{1}{4}$ NW $\frac{1}{4}$	SECTION 16	TOWNSHIP N. 19	RANGE, (E. OR W.) W.M. 4E	W.R.I.A. 10	COUNTY Pierce
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by Firgrove Mutual Water Company.

DESCRIPTION OF PROPOSED WORKS

6" x 440' well.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:

Started

COMPLETE PROJECT BY THIS DATE:

Complete

WATER PUT TO FULL USE BY THIS DATE:

In use

REPORT

I recommend issuance of a permit for Application G2-28161, to allow withdrawal of public ground water for multiple domestic supply.

BACKGROUND

Pursuant to Chapter 90.44 Revised Code of Washington (RCW), Roy Bingman, for Firgrove Mutual, Inc., filed an application to appropriate public ground water, from a well known as Well #9. Mr. Bingman requested 250 gallons per minute (gpm), for multiple domestic supply.

Withdrawals from Well #9 were previously permitted under Water Right Certificate No. G 2-26739C. This certificate authorizes the withdrawal of 70 gpm and 56 acre-feet per year (primary supply), from a 296' deep well, drilled in June and July of 1959. This well was deepened to 440' during February and March 1986, using 6" casing. Because a different water bearing zone was tapped by the deepened well, Water Right Certificate No. G2-26739C should be relinquished back to the state.

Water Right Certificate No. G 2-26739C was assigned a priority date of July 2, 1985. Application No. G 2-28161, was assigned a priority date of May 24, 1991.

A legal notice of the proposed appropriation was prepared published by the applicant in the "Pierce County Herald" of Puyallup, Washington. No protests to this appropriation were submitted.

On January 13, 1993 Mr. Bingman requested that the instantaneous withdrawal be increased from 250 gpm to 500 gpm. An amended legal notice of the proposed increased withdrawal was prepared by department staff and published by the applicant in the "Pierce County Herald" of Puyallup, Washington. No protests to the amended appropriation were submitted.

INVESTIGATIONS

Jill Van Hulle and I conducted a field investigation of this application on April 7, 1993. Mr. Bingman was not present during the site visit, however, I later discussed the water system with him by telephone, and he described the well and water system, and provided information concerning water use, and data on projected population. Other investigations included a review of recorded water rights and water right claims.

Location and Description of Site

The well is located approximately 1.5 miles south of the South Hill area of Puyallup. The surrounding area includes single family homesites and small farms, with occasional larger developments in the nearby area.

Firgrove Mutual intends to intertie this well with the other 14 wells that comprise the water system. The applicant plans to operate the well an average of 12 hours a day.

Aquifer Characteristics

Well 9 is completed in an aquifer formation consisting of gray silty sand and gravel. Overlying layers are composed of brown silty sands, and gray silty sands and gravels.

Report Continued

Water Right Summary

The water service area of Firgrove Mutual Water Company, has experienced moderate population growth during the 1980's, and a population projection of 25,000 customers by 2010 is currently used for planning purposes. Firgrove Mutual Water Company currently holds water right Certificates and Permits as follows:

<u>Certificate</u>		<u>Primary*</u>	<u>Supplemental**</u>
2190-A	70gpm	112 acre-feet	
4701-A	76gpm	121.6 acre-feet	
G2-20044	300gpm	45 acre-feet	
G2-20775	180gpm	144 acre-feet	
G2-20776	70gpm	56 acre-feet	
G2-21086	60gpm	48 acre-feet	
G2-24021	525gpm	600 acre-feet	
G2-25669	250gpm	200 acre-feet	
G2-26506	460gpm	380 acre-feet	
G2-26739	70gpm	56 acre-feet	
G2-27256	255gpm	204 acre-feet	
G2-27497	265gpm	258 acre-feet	
G2-27871	130gpm	100 acre-feet	
G2-27872	200gpm	160 acre-feet	
G2-27935P	900gpm		300 acre-feet**
G2-28312P	160gpm		54 acre-feet**
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3,831gpm		2,316.6 acre-feet	354 acre-feet

* Primary rights are issued for an additional annual quantity.

**Supplemental rights are issued to allow additional instantaneous withdrawal, but do not allocate an increased annual withdrawal.

Additionally, the well covered under Water Right Certificate No. G2-26739 has been redrilled to a depth of 440", to penetrate a different water bearing zone. A proviso of this permit (Water Right Permit G2-28161) will direct that Certificate No. G 2-26739 be relinquished to the State, therefore, Certificate G2-26739 is not counted under allocated acre-footage.

The well covered under Water Right Certificate No. 2190-A has reduced capacity and is no longer in use. A proviso of Water Right Permit G2-27935P directs that Certificate No. 2190-A be relinquished to the State. Therefore, Certificate 2190-A is not counted under allocated acre-footage.

All wells covered under the above water rights have been interconnected, and serve the area generally delineated as the "area served by Firgrove Mutual Water Company" or the "Community of Firgrove".

Under the Growth Management Act of 1990, local governments must develop regional water resource plans. To meet the water supply needs of the large public utilities, during the time that regional water resource plans are being developed, the Department of Ecology is currently issuing water rights using a 6 year planning horizon. Firgrove Mutual Water Company has estimated that the company could be serving 25,000 customers by the year 2010, and this population projection has been used in the past for water right issuance. Current population projections from the Firgrove Mutual Water System Plan indicate that in 1999 the system will be serving 5,550 living units, or a population of approximately 16,000. Mr. Bingman confirmed that this figure is on target with the earlier postulation of 25,000 customers in the year 2010.

Water usage for the Firgrove area is approximately 100 gallons per day per capita; a population of 16,000 would result in a requirement of 1,800 acre-feet per year. With an average pumping time of 12 hours per day, well #9 will produce 403 acre-feet per year. Firgrove Mutual currently holds water right Certificates for a primary supply of 2,316.6 acre-feet, a quantity more than sufficient to meet the needs of the population within the 6 year planning horizon. Accordingly, the production of well #9 (potentially 403 acre-feet per year) should be allocated as supplemental supply to existing rights.

Effect on Existing Rights

There are logs on file for 4 wells that have been constructed within a half mile radius of this well. All of the wells are completed at depths of 261' to 374', in water bearing zones located above that of the subject well. Several layers of silts and clays separate these water bearing zones from that of the subject well.

Report Continued

Department of Ecology records indicate that 1 Water Right Permit has been issued within a half mile of the subject application. This right (G2-27497C) was issued to Firgrove Mutual, Inc., and allows the withdrawal of 256 gpm and 258 acre-feet per year for multiple domestic supply.

The likelihood of impacts to existing rights is slight, however the applicant is reminded of his responsibility towards existing right holders, and cautioned that withdrawals from this well may be regulated if impacts occur.

CONCLUSIONS

In accordance with Chapter 90.03 and 90.44 RCW, I find there is water available for appropriation from the source in question, that the appropriation is for a beneficial use, and should not impair existing rights or be detrimental to the public welfare.

The water allocation for this permit is as follows:

- Well #9 will be used to provide peaking flows for the Firgrove Mutual water system, and will be operated for an average of 12 hours per day, producing 403 acre-feet per year. The water will be needed year round, as required, and will be considered as supplemental supply to existing rights.

RECOMMENDATIONS

I recommend approval of this application and issuance of a permit to allow appropriation of 500 gallons per minute for multiple domestic supply. The total amount of water withdrawn shall not exceed 403 acre-feet per year.

The permit shall be subject to existing rights and the following provisions.

"Water Right Certificate No. G 2-26739 and 2190-A will be relinquished to the State prior to certification of permit G2-28161"

Installation and maintenance of an access port as described in WAC 173-160-355 is required. An air line and gauge may be installed in addition to the access port.

The water appropriated under this application will be used for public water supply. The State Board of Health rules require public water supply owners to obtain written approval from the Office of Water Supply, Department of Health, Mail Stop LD-11, Building 3, Olympia, Washington 98504, prior to any new construction or alterations of a public water supply system.

An approved metering device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through -040 (installation, operation, and maintenance requirements are attached). Meter readings shall be recorded at least monthly.

This permit is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990 (attached), and as revised.

Under RCW 90.03.005 and 90.54.020(6), conservation and improved water use efficiency must be emphasized in the management of the states water resources, and must be considered as a potential new source of water. Accordingly, as part of the terms of this permit, the applicant shall prepare and implement a water conservation plan approved by Department of Health. The standards for such a plan may be obtained from either the Department of Health or the Department of Ecology.

The Water Resources Act of 1971 specifies certain criteria regarding utilization and management of the waters of the State in the best public interest. Favorable consideration of this application has been based on sufficient waters available, at least during portions of the year. However, it is pointed out to the applicant that this use of water may be subject to regulation at certain times, based on the necessity to maintain water quantities sufficient for preservation of the natural environment.

"The water withdrawn under this permit will be considered as supplemental supply to existing rights."

REPORTED BY: Don Dair Date: May 26, 1993
The statutory permit fee for this application is \$20.00.